



Gender equality, food security and the sustainable development goals

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Abstract

This paper examines the potential and limitations of SDG 5 (Gender Equality) in helping to achieve household food security. The potential lies in the attention it pays to women's access to land and natural resources, which can significantly enhance women's ability to produce and procure food. Its limitations lie in a lack of attention to the production constraints that women farmers face; its failure to recognise forests and fisheries as key sources of food; and its lack of clarity on which natural resources women need access to and why. Moreover, other goals which bear on food security as important providers of nutrition, such as SDG 15 as it relates to forests and SDG 14 as it relates to fish resources, make no mention of gender equality, nor does SDG 13 (Climate action) recognise the vulnerabilities of women farmers. A bold interpretation of SDG 5 and establishing synergies with other SDGs could provide ways forward. This includes not only SDGs which recognise the importance of gender equality, such as SDGs 1, 2, and 13 on poverty, hunger, and climate change respectively, but also SDGs 14 and 15 whose silence on gender could prove detrimental not just to attaining food security, but also to furthering their stated objectives of resource conservation.

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Introduction

Since the late 1970s, we have seen the launch of several initiatives to monitor the development performance of countries, by quantifying their progress in various dimensions of human well-being. UNDP's Human Development

Report and the World Bank's World Development Report, both produced annually, are among the best known of these initiatives. In the 2000s, however, there was a notable move beyond evaluative statistics to setting globally agreed-upon timebound goals of development. The eight Millennium Development Goals (2000–2015) were a start, but the United Nations' Sustainable Development Goals (SDGs) launched in 2016 constitute the most ambitious attempt to date. Presented as 'a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity', the SDGs combine economic, social and environmental dimensions, with a particular emphasis on social inclusion. The 17 Goals and 160 Targets are to be achieved by 2030. Identified through a long process of interaction between international organisations, governments and civil society, they reflect both the ambition of this multi-scale endeavour and the compromises that arise in building consensus among diverse actors.

This paper focuses on SDG 5—which aims at Gender Equality—to address the question: can this Goal help ensure household food security? The concept of food security is of course complex, and would encompass not only food availability in an aggregate sense but also its distribution among people, and not only caloric adequacy but also nutritional sufficiency. The diversity of food produced or procured also matters, as does the environmental sustainability of food production systems. To what extent can SDG 5 help fulfil these objectives?

I argue that SDG 5 holds substantial potential but also has serious limitations on these counts. The potential lies in its focus on two elements which have a critical bearing on household *and* national food security: women's access to land and property, and their access to natural resources. Secure land rights can enhance the productivity of women farmers whose proportions are growing with the feminisation of agriculture, and also improve intra-household nutritional allocations since owning property increases women's bargaining power within families. Access to natural resources, such as forests and fisheries, can provide important additional sources of nutritional diversity, since women are the main gatherers of food from forests and the principal producers in small-scale and inland fisheries. This potential could be extended by teaming up with Goals 1 and 2 (ending poverty and hunger respectively).

Yet there are limitations, since some key related Goals—in particular SDG 15 (Life on land) as it relates to forests, and SDG 14 (Life below water) as it relates to marine and

coastal ecosystems — make no mention of gender equality in access to these resources, nor does SDG 13 (Climate action) recognise the particular vulnerabilities of women farmers. Indeed there is little recognition in these SDGs that forests and fisheries are significant sources of food and nutritional diversity, or that women play an important role in procuring from them. Moreover, SDG 5 itself provides no clarity on which natural resources it seeks women's access to and how. Much will therefore depend on whether the gender equality goal can create synergies with other relevant SDGs, and whether these other SDGs, in turn, recognise that they need a focus on gender equality for achieving their own stated objectives. These links between SDG 5 and other SDGs which are detailed below have not been explored earlier from the perspective of food security and natural resources. But first consider what roles women play in food provisioning.

Women and food provisioning

Roles and constraints

Women play a central role in household and national food security, as food producers, household food managers, and consumers.

As producers, women constitute a substantial and growing proportion of agricultural workers, as more men than women tend to leave the agricultural sector first. In 2012, 43 per cent of all farm workers in Asia and 47 per cent in Africa were female, with percentages close to 50 or higher in Southeast and East Asia (<http://faostat.fao.org>). In some of the world's major rice producing regions, half or more of the agricultural work force is thus female. And these proportions have been growing globally, except in northern Europe, leading to a gradual feminisation of agriculture [1]. In addition women provide most of the labour time for food processing and preparation [2].

Women's ability to contribute effectively to agriculture, however, depends crucially on their access to land, which is the most important productive resource for farmers. But they are seriously disadvantaged in this respect due to male bias in inheritance laws, in social norms which restrict effective implementation of these laws, in land markets, as well as in government land distribution schemes [3,4]. Although country-level gender-disaggregated data on land ownership is limited and varies across regions, Table 1 gives some illustrative figures. We note that in Nepal women owned land in only 14 per cent of all landowning households, according to its 2001 census. For India, there are no reliable country-level data on women's land ownership, but regional surveys find low levels even in the less gender-biased southern states: for example, only 20 per cent of rural landowners in Karnataka are women. And of India's operational holdings (namely land cultivated but not necessarily owned) – only 12.8 per cent are cultivated by women, covering just 10.4 per cent of cultivated area (Agricultural Census 2010-11 [5]). In Ghana, women own land in just 10 per cent of households; in Kenya, only 5 per cent of registered landholders are female; and information collated for ten other African countries by Doss *et al.* [6] shows that, although on average 39 per cent of the sampled women own land, only 12 per cent are sole owners (the figures are 48 and 31 respectively for men). Latin America similarly shows a wide gender gap, with just 22–30 per cent of landowners being women, varying by country. Moreover, the control that women owners can exercise over land (e.g. rights to lease, mortgage, sell, or use as collateral) is more restricted than men's [3,7].

Women also have poor access to credit, irrigation, fertilizers, technology, information on new agricultural practices, and marketing infrastructure [7,11]. These disadvantages multiply if we factor in climate change, since any technical advances in, say, heat resistant or water

Table 1

Gender inequality in land access: developing countries

Region and country	Indicator	Percentage	Source
South Asia			
Nepal	Percentage landowning HHs in which women own land (2001)	14.0	Allendorf [8]
India: Karnataka state	Percentage rural landowners who are women (2010-11)	20.0	Swaminathan <i>et al.</i> [9]
Africa			
Kenya	Women as a percentage of registered landholders (c. 2002)	5.0	Deere and Doss [10]
Ghana	Percentage HHs where women own land (1991-2)	10.0	Deere and Doss [10]
Ten countries (average) ^a	Percentage of women owning land, solely or jointly	39.0	Doss <i>et al.</i> [6]
Latin America^b			
Peru	Women owning land (solely or jointly) as a percentage of all land owners (2000)	25.3	Deere and Leon [4]
Mexico	Women owning land (solely or jointly) as a percentage of all land owners (2000)	22.4	Deere and Leon [4]
Paraguay	Women owning land (solely or jointly) as a percentage of all land owners (2000)	30.2	Deere and Leon [4]

Notes: HH, households.

^a The countries are Burkina Faso, Burundi, Ethiopia, Lesotho, Malawi, Rwanda, Senegal, Tanzania, Uganda, and Zimbabwe. The calculations are based on the Demographic and Health surveys in these countries. For assumptions underlying the calculations, see Doss *et al.* [6].

^b For assumptions underlying the calculations, see Deere and Leon [4].

conserving crop varieties, or in practices for adaptation and mitigation, are less likely to reach them. This does not portend well for foodgrain availability, especially in South Asia and sub-Saharan Africa where the yields of all major foodcrops are predicted to decline drastically with climate change [12]. Globally, even without climate change, exceptional efforts will be needed to feed the world population, which is expected to reach 9.8 billion by 2050, as projected by the United Nations Department of Economic and Social Affairs. With climate change, if food output lags behind population, per capita calories available in developing countries in 2050 are likely to be lower than in 2000, resulting, by some estimates, in 20 per cent higher child malnutrition than without climate change [12]. As agriculture gets feminised, the burden of adapting to or mitigating the adverse yield effects will fall increasingly on women, who have fewer resources at their command for this purpose. Women's efforts to adapt to climate change could also lead them to shift to less labour intensive but also less bio-diverse or nutritious crops [13], even as the importance of nutrition-sensitive agriculture is becoming increasingly evident [14].

In terms of consumption, any reduction in household food availability with climate change, not just in calories but also in proteins and minerals, is likely to affect women and girls more than men and boys, given intra-family inequality in food distribution. In the 1970s and 1980s, these inequalities were observed not only in anthropometric and malnourishment indices but even in direct measures of caloric intakes in poor households, and in the quality of food consumed by both the poor and the rich [1,15]. Today the evidence on caloric intakes is more mixed, but other gender disadvantages persist, as observed in South Asia in terms of undernourished and underweight children [16,17]. Moreover, globally, an estimated 613 million women today are anaemic, especially but not only when pregnant and lactating [18]. And in societies where women are expected to eat last, they are more likely to be affected if leftover food becomes toxic as temperatures rise with climate change. Higher temperatures will also extend women's labour time for food processing and preservation. And gender inequalities, cross-cutting with poverty and social inequalities such as of caste, ethnicity or race, will tend to compound these effects. Based on FAO's Food Insecurity Experience Scale Survey of 2014–15, UN Women's calculations show that in two-thirds of 141 countries, a larger proportion of women than men report food insecurity, with women in sub-Saharan Africa being the most vulnerable [19].

This vulnerability could be reduced to some extent, if women as family food managers had more autonomy in making decisions on intra-household food distribution, an aspect which is found to be affected especially by inequalities in asset ownership. For instance, child

survival, nutrition and health are found to be notably better if the mother has assets and income, than if the father alone has the same [20,21]. Hence a move to greater gender equality in access to productive assets such as land can also enhance women's effective control over food distribution within the home, and benefit them and their children as consumers.

Natural resources and food security

Apart from crops, women contribute to food systems through forests and fisheries. This also helps enhance the diversity and nutritional quality of diets, especially but not only of poor families. An estimated one in 6 persons globally depends on forests, particularly for supplementary food, including about 60 million indigenous people who are almost wholly forest dependent (see [22] for a global collation of evidence on the importance of forests for food). Forests also provide green manure, fodder for animals, and various other inputs for small-holder agriculture. Women and girls undertake much of the gathering of forest products, especially food, firewood and fodder [23]. Firewood remains the single most important cooking fuel in large parts of the developing world [24], and adequate cooking energy is an essential element in food security. In the immediate short-term, increasing women's access to fuelwood by ensuring their access to forests and village commons in sustainable ways, can notably reduce energy poverty [23], although over time a shift to cleaner fuels is necessary, given the seriously health-damaging effects of unprocessed biofuels which disproportionately affect women and children [24].³ However, women's say in the management and use of forests remains greatly restricted by male-biased rules and social norms [23].

Similarly, seafood contributes substantially to nutrition. A billion people are estimated to depend on seafood as their primary source of protein, and 25 per cent of the world's total animal protein comes from fisheries [25]. Although women constitute 46 per cent of workers in small-scale fisheries and 54 per cent in inland fisheries [26], marine products are harvested mainly by men, with women constituting only 12 per cent of all fishers and fish farmers globally ([27]: 108; see also, [28]). It is aquaculture, however, which is fast-growing and expected to contribute more than half of all fish consumed by 2020 ([29]:19). The expansion of inland aquaculture — an important part of which falls in women's domain — could provide a more sustainable form of fish production than open sea fishing, and can even help to conserve depleting marine resources [30]. Ironically this receives no mention in SDG 14, just as women's stake in forests receives no mention in SDG 15.

³ Of the estimated 1.6 million deaths that take place annually from inhaling fuel smoke from cooking indoors, 60 per cent are of women ([24]:28).

Overall, therefore, while women are central actors in food provisioning, and their involvement will increase with time, they are stymied by serious resource and social constraints.

The potential and limitations of SDG 5

Potential

To what extent does SDG 5 address these constraints? The two key targets relevant to this discussion, 5.a and 5.5, are given in [Box 1](#). To begin with, we note that SDG 5 pays serious attention to women's access to land. This offers a substantial opportunity, unlike the narrowly-defined Millennium Development Goals which took little account of women's access to resources. In principle, women can obtain land via three main sources: the family (especially through inheritance or gift), the market, and the State. Target 5.a privileges the family as the primary source, since it explicitly mentions only inheritance laws and not State policies. This limits its scope. But since farm land is largely owned privately in most developing countries (in India 86 per cent of arable land is in private hands), gender equality in the ownership of family land could provide security of tenure to large numbers of women farmers. This would be an important step towards increasing farm productivity and hence food security, by providing foodcrops for direct consumption and/or income for buying food. Also it could indirectly improve food security for children, given the noted link between the mother's assets and child survival, nutrition and health.

Second, Target 5.a mentions women's access to financial services. Affordable credit would help women farmers invest in necessary inputs. There are, in fact, notable examples of government efforts at linking women farmers to subsidised formal credit, such as the National Bank for Agriculture and Rural Development in India which provides such links to those forming Joint Liability Groups. In some states, such as Kerala, many thousand women farming collectively have taken advantage of this scheme, which (among other measures) has facilitated substantial improvements in their productivity and profits [\[31,32\]](#).

Box 1 SDG 5: some key targets

Goal 5: Achieve gender equality, and empower women and girls everywhere

Target 5.a

Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws

Target 5.5

Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

Third, Target 5.a emphasises the need to increase women's access to natural resources. Although it does not specifically mention forests, fisheries, or irrigation water, it provides an important opportunity to focus on these sources of food, if policy makers and practitioners interpret it in those terms.

Fourth, Target 5.5 emphasises women's equal and effective partnership in public life. Although the focus here is on State institutions such as legislatures and village councils, it could be extended to cover community institutions such as forest management groups and water users' associations which are found to be particularly effective in natural resource management [\[23,33\]](#). Hence, as with Target 5.a, Target 5.5 can prove to be an ally in enhancing food security if countries are willing to broaden its interpretation.

Limitations

Notwithstanding its potential, however, SDG 5 also has serious limitations in its ability to deliver on food security. To begin with, consider access to farm land. The emphasis in Target 5.a, as noted, is mainly on access via inheritance, and hence implicitly access via the family. But even this access is diluted by the clause 'in accordance with national laws', thus eliding precisely that which often needs changing, namely making national laws gender equal. Also, social norms and gender biases within families and communities create serious barriers in the implementation of women's legal rights [\[3,7\]](#). For example, it is widely accepted in most communities that women will join their husbands on marriage, rather than the reverse. This social norm restricts women's ability to claim, control or manage the land they inherit from their parents. Norms of female seclusion and gender segregation of public space similarly reduce women's mobility and public interactions, and hence their access to the market place for procuring production inputs, hiring labour during peak seasons, or selling their produce. Social norms also restrict women's access to training and information on new technologies provided by governments. Overcoming the many barriers created by gendered social norms is likely to prove difficult, although not insurmountable. But changing social norms is not factored into SDG targets, and tends to fall largely outside the purview of government policy. SDG 5, however, makes no mention even of that which does fall within the scope of policy, such as support for better implementation of inheritance laws by spreading legal awareness or providing legal aid to women contesting their claims; government land transfers to women under anti-poverty programmes; and subsidised credit to help poor women purchase land and farm it productively.

Moreover, for making the land productive, women need irrigation and other inputs, as well as technical support for conserving soil and water and moving towards sustainable

farming systems. Target 5.5, as noted, only mentions financial services, which is just one facilitator, and cannot cover the other needs on its own.

SDG 5 also fails to explicitly highlight women's access to forests and fisheries which, as noted, are important sources of food. Although it does mention women's access to natural resources (Target 5.a), there is no elaboration on what constitutes natural resources, or ways of accessing them. In fact, the indicators for monitoring SDG 5 do not include natural resources at all. Similarly, SDG 5 makes no mention of the challenges faced by food producers due to climate change, while SDG 13 which focuses on climate change pays no attention to the needs of women farmers.

Ways forward

Notwithstanding its limitations, there are at least five ways in which SDG 5 can help promote food security. First, by interpreting this Goal as broadly and imaginatively as possible. Access to natural resources, for instance, would need to include access particularly to forests and fisheries. This will require broadening the reach of Target 5.5 (which focuses on women's effective participation in institutional decision-making) beyond legislatures and village councils (mentioned in the SDG 5 indicators), to cover community institutions for natural resource management. And although none of the SDGs mention women's access to a key agricultural input—irrigation water—this can potentially be taken up within the mandate of increasing women's access to natural resources.

Second, SDG 5 needs to team up with SDGs 1 and 2 which clearly recognise the link between gender inequality and food security; in fact they do so more explicitly on some counts than SDG 5 itself. SDG 1 (no poverty) and SDG 2 (zero hunger) are both concerned with food security, the latter directly and the former indirectly (poverty is often measured in terms of adequate caloric intake). Both also recognise that gender inequality has a bearing on the achievement of these Goals. For instance, Target 1.4, in addition to focusing on security of land tenure and credit mentions that by 2030 all men and women should get appropriate technology; and Target 2.3 highlights the need to 'double the agricultural productivity and incomes of small-scale food producers, *in particular women* . . . ' (emphasis added), and ensure their access to 'other productive resources and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment'. It also recognises the need for promoting sustainable food production systems and resilient agricultural practices. Hence, implementing these SDGs in tandem with Target 5.a could go a long way towards increasing gender equality in the resources women farmers need for improving their

yields and profits, as well as for adopting practices that are environmentally sustainable.

Third, SDGs which mention gender, but in a general way, can be interpreted to focus on specific aspects. SDG 13 on climate change, for instance, in its Target 13.b, mentions the need for supporting women (among other groups) to deal with climate change. This support could be directed to women farmers in particular. Similarly, SDG 6 on water and sanitation which mentions gender would have an indirect impact on nutritional outcomes.

Fourth, it is essential to engender SDGs which have a critical and direct bearing on food security, but which ignore gender. Cases in point are SDG 15 as it relates to forests and SDG 14 as it relates to marine resources. Neither mentions gender equality of access. In fact, both focus almost entirely on resource conservation, with little recognition of their contributions to food chains or to the incomes of rural households, especially the poor. Since forests and marine resources are largely common pool resources, access to them is mainly controlled by their management committees which determine the rules of protection and extraction. But the absence of a gender focus in these Goals misses some key synergies between gender equality, conservation and food security.

For instance, in India and Nepal, the likelihood of improved forest conservation is found to be significantly higher where forest management committees have a critical mass of 25–33% women, than those which have few or no women [23]. In the long run, this also increases the supply of diverse forest products, and women's access to these products, thus contributing to food security in direct and indirect ways. Similar outcomes could be expected with women's greater involvement in marine resource management, beyond inland fisheries which are already largely in women's domain. In other words, establishing a synergy with SDG 5 would help SDGs 14 and 15 achieve their own targets more effectively as well.

Fifth, over the past two decades or more, there have been many approaches used by civil society and even by governments to increase women's access to land and natural resources, for enhancing their livelihoods and food security.⁴ Some have been more successful than others. Given that civil society representatives were involved in the framing of the SDGs, seeking their participation in achieving the Goals could provide another source of potential synergy for governments and international organisations. Such a partnership could

⁴ Today there are many examples of civil society groups working to increase women's access to land. These include GWLO (Working Group for Women and Land Ownership) and MAKAM (an all-India forum for women farmers' rights) in India, and ALRD (Association for Land Reform and Development) in Bangladesh. Globally, the International Land Coalition is a case in point.

also focus attention on innovative approaches which have received inadequate recognition so far, such as cooperative forms of farming that could prove particularly important for raising the productivity and food security of women farmers and their families. Some 84 per cent of all farms across 111 countries cultivate less than 2 hectares ([34]:12), many of them too small to be viable. Here, group farming, especially by women, could provide an important way forward. In Kerala (India), for instance, there are some 62 000 women's group farms today, operating under the Kudumbashree programme. In my recent study covering two districts I found that these group farms substantially outperformed male-managed individual family farms, in both per hectare annual value of output and profits per farm [32]. Elsewhere, community cooperation in crop planning across similar agro-ecological regions in India has been yielding positive results (see [35]).⁵

Overall, therefore, SDG 5 on gender equality has substantial potential for improving both household and national food security, but much depends on how imaginatively and broadly governments interpret key elements, such as equality of access to land, to natural resources such as forests, fisheries and irrigation water, and to the control and management of these resources. Even with this broader interpretation, however, the gender equality goal may have limited impact, unless efforts are made to establish synergies with other SDGs and draw in civil society practitioners as partners in the implementation of key SDGs. This would include not only working in tandem with SDGs 1, 2, 6 and 13 which highlight gender as a concern, but also with SDGs 14 and 15 which so far have failed to recognise their substantial potential in furthering both gender equality and food security.

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⁵ As an illustration of the potential of community initiatives for achieving food security, also see Patel *et al.* [36] The authors provide an interesting example from Malawi of local efforts to combat malnutrition through agro-ecological practices, community mobilisation, and women's empowerment.

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